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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
107799,657	03/15/2004	Kazutaka Okamoto	500.41512CX2	8596

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EXAMINER

EDMONDSON, LYNNE RENEE

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 05/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/799,657

Applicant(s)

OKAMOTO ET AL.

Examiner

Lynne Edmondson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10/100,093.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-9 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6729526 B2 in view of Boon et al. (USPN 6325273 B1). . Although the conflicting claims are not identical, they are not patentably distinct from each other because both teach a friction stir welding apparatus comprising a controller for controlling relative distance in a tool insertion direction or an insertion depth of the tool so that a load factor or electric current of the spindle motor is within a predetermined range (instant claims 1 and 3 and '526 claim 1). Both comprise a laser or contact type displacement meter for detecting relative distance or insertion depth (instant claims 2 and 4 and '526 claim 2). Both methods comprise the steps of inserting the rotating tool into the work and moving the rotating tool while controlling the relative distance in a tool insertion direction or insertion depth so that a load factor or electric current is within a predetermined range (instant

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claim 5 and '526 claim 3). However the instant claims are slightly broader. Neither is tilting disclosed.

Boon teaches the conventional practice of tilting the welding tool at an angle (col 5 lines 3-26).

It would have been obvious to one of ordinary skill at the time of the invention that the instant apparatus is capable of performing the same function as the '526 device without the extra setting means and the instant method would form a similar product regardless of tool speed. The additional features in the '526 apparatus would not prevent the device from being able to perform the same task as disclosed in the instant claims. The broader instant claims encompass the scope of the '526 claims.

Measuring and control means for controlling the distance of the tool from the workpiece would also measure and control insertion depth as this is determined by the tool position. It is also obvious to employ the conventional practice of tilting the tool to further push plasticized material into the weld joint and thereby form stronger, more reliable welds.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

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(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Hirano et al. (USPN 6540128).

Hirano teaches a friction stir welding method and apparatus (col 1 lines 5-12) comprising a controller for controlling the relative distance between the rotating tool and work and the insertion depth (push-in quantity) of the tool such that the spindle motor operates within a predetermined range of load (torque) (col 6 lines 1-56). A laser displacement sensor is employed to detect distance and depth (col 4 line 9 – col 5 line 14 and col 12 line 66 – col 13 line 36).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

4. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoshinaga (USPN 6708865).

Yoshinaga teaches a friction stir welding (or cutting) method and apparatus (col 1 lines 5-11) comprising a controller for controlling the relative distance between the rotating tool and work and the insertion depth of the tool such that the spindle motor

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operates within a predetermined range of load (torque) and current (col 4 lines 15-65).

A contact sensor is employed to detect distance and depth (col 4 lines 57-65 and col 5 lines 38-62). Cutting and bonding tools are interchangeable (col 5 lines 17-35).

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

### ***Response to Arguments***

5. Regarding applicant's argument that Hirano and Yoshinaga are not prior art under 35 USC 102 because they are commonly owned, it is noted that the applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding applicant's argument that Hirano does not teach the controller or tilting of the tool, see column 6 lines 31-45 which teaches a control means for controlling the insertion depth (push in quantity) of the tool which is directly related to the height of the tool and see figure 10 and col 11 lines 40-67 which teach tilting of the tool to a particular angle. A laser displacement sensor is employed to detect distance and depth (col 4 line 9 – col 5 line 14 and col 12 line 66 – col 13 line 36).

6. Therefore the 102 rejection of claims 1-6 as anticipated by Hirano stands and includes new claims 7-9.

7. Regarding applicant's argument that Yoshinaga teaches both cutting and welding, it is noted that the ability to cut does not change the welding process or apparatus and that the tools are described as used alternatively rather than simultaneously. See col 2 lines 53-67 and col 3 lines 5-19 which teach use of the cutting tool 51 or friction stir welding tool 52. Regarding the argument that the reference does not teach the controller or tilting of the tool, see col 4 lines 15-65 which teaches a control means for controlling the insertion depth of the tool which is directly related to the height of the tool and see figures 2 and 3, col 3 lines 6-15, col 3 lines 31-62, col 4 lines 28-30 and col 11 lines 40-67 which teach tilting of the tool to a particular angle and particularly col 1 lines 26-45 which teach that tilting is well known in the art. The position of the work is also detected (col 4 lines 66 and 67). A contact sensor is employed to detect distance and depth (col 4 lines 57-65 and col 5 lines 38-62).

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8. Therefore the 102 rejection of claims 1-6 as anticipated by Yoshinaga stands and includes new claims 7-9.

**Conclusion**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (571) 272-1172. The examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lynne Edmondson  
Primary Examiner  
Art Unit 1725

LRE

LYNNE R. EDMONDSON  
PRIMARY EXAMINER

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